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I. STATUS OF CLAIMS

Claims 1-26 are pending.

Claim 4 has been amended.

Claims 1-4, 9, 12-15, 20 and 23-26 stand rejected under 35 USC §103(a) as being unpatentable over Mulgund et al. (U.S. Pub. No. 2002/0161751) (hereinafter “Mulgund”) in view of Warneke et al. (“Ultra-Low Power Communication Logic Circuits for Distributed Sensor Networks”) (hereinafter “Warneke”). *See Examiner’s Office Action*, p. 3 (17 July 2009).

Claims 5-8 and 16-19 stand rejected under 35 USC §103(a) as being unpatentable over Mulgund in view of Warneke and in further view of Chin et al. (U.S. Pub. No. 2004/0090326). *See Examiner’s Office Action*, p. 6 (17 July 2009).

Claims 10, 11, 21¹ [and 22] stand rejected under 35 USC §103(a) as being unpatentable over Mulgund in view of Warneke and in further view of Eschenauer (U.S. Pub. No. 2005/0140964) (hereinafter “Eschenauer”). *See Examiner’s Office Action*, p. 7 (17 July 2009).

II. ISSUES TO BE REVIEWED

The issues in this response relate to whether the art of record establishes a *prima facie* case of the unpatentability of Applicant’s claims. For reasons set forth elsewhere herein, Applicant respectfully asserts that the art of record does not establish a *prima facie* case of the unpatentability of any pending claim.² Accordingly, Applicant respectfully requests that Examiner hold all pending claims allowable for at least the reasons described herein, and issue a Notice of Allowance on same.

¹ The Office Action item 5 page 6 repeats claim number 21 twice, which is apparently a typographical error.

² Irrespective of a desire to be cooperative, the ability of any patent practitioner to help the Examiner fulfill this burden on the record is tightly curtailed by pre- and post-issuance legal standards and by various ethical duties in tension. *See, e.g.*, 37 C.F.R. § 10.83 (“A practitioner should represent a client zealously within the bounds of the law.”); 37 C.F.R. § 10.84 (“[A] practitioner shall not intentionally ... [p]rejudice or damage a client during the course of a professional relationship, except as required under this [ethics] part.”); and 37 C.F.R. § 10.76 (“A practitioner should represent a client competently.”). For these and other reasons, this document notes instances in which the Examiner inadvertently did not follow the prescribed rules rather than seeking to interpret claims and/or to adduce evidence on the Examiner’s behalf.

III. ARGUMENT: ART OF RECORD DOES NOT ESTABLISH *PRIMA FACIE* CASE OF UNPATENTABILITY IN VIEW OF CITED ART OF RECORD

Applicant respectfully asserts herein that, under t[h]e MPEP and legal standards for patentability as set forth below, the art of record does not establish a *prima facie* case of the unpatentability of Applicant's claims at issue. Specifically, Applicant respectfully shows below that the art of record does not recite the text of Applicant's claims at issue, and hence fails to establish a *prima facie* case of unpatentability. Accordingly, Applicant respectfully requests that the Examiner withdraw his rejections and hold claims 1-26 to be allowable over the art of record.

A. MPEP Standards for Patentability³

The MPEP states as follows: "the examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability. If that burden is met, the burden of coming forward with evidence or argument shifts to the applicant. . . . If examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of the patent." *MPEP* § 2107 (citing *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992)); *In Re Glaug*, 283 F.3d 1335, 62 USPQ2d 1151 (Fed. Cir. 2002) ("During patent examination the PTO bears the initial burden of presenting a *prima facie* case of unpatentability. *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984). If the PTO fails to meet this burden, then the applicant is entitled to the patent.") Accordingly, unless and until an examiner presents evidence establishing *prima facie* unpatentability, an applicant is entitled to a patent on all claims presented for examination.

³ Applicant is aware that Examiner is familiar with the MPEP standards. Applicant is merely setting forth the MPEP standards to serve as a framework for Applicant's arguments following and to ensure a complete written record is established. Should Examiner disagree with Applicant's characterization of the MPEP standards, Applicant respectfully requests correction.

1. MPEP Standards for Determining Anticipation

An examiner bears the initial burden of factually supporting any *prima facie* conclusion of anticipation. *Ex Parte Skinner*, 2 U.S.P.Q.2d 1788, 1788-89 (B.P.A.I. 1986); *In Re King*, 801 F.2d 1324, 231 U.S.P.Q. (BNA) 136 (Fed. Cir. 1986); *MPEP* § 2107 (citing *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992) (“[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability...”)). Failure of an examiner to meet this burden entitles an applicant to a patent. *Id.* (“[i]f examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of the patent”).

The MPEP indicates that in order for an examiner to establish a *prima facie* case of anticipation of an applicant’s claim, the examiner must first interpret the claim,⁴ and thereafter show that the cited prior art discloses the same elements, in the same arrangement, as the elements of the claim which the examiner asserts is anticipated. More specifically, the MPEP states that “[a] claim is anticipated *only if each and every element as set forth in the claim is found*, either expressly or inherently described, in a single prior art reference. . . . The identical invention must be shown in as complete detail as is contained in the . . . claim. . . . The elements must be arranged as required by the claim . . .”. *MPEP* § 2131 (emphasis added). Consequently, under the guidelines of the MPEP set forth above, if there is *any* substantial difference between the prior art cited by an examiner and an applicant’s claim which the examiner asserts is rendered anticipated by the prior art, the prior art does NOT establish a *prima facie* case of anticipation and, barring other rejections, the applicant is entitled to a patent on such claim.

⁴ With respect to interpreting a claim at issue, the MPEP directs that, during examination -- as opposed to subsequent to issue -- such claim be interpreted as broadly as the claim terms would reasonably allow, in light of the specification, when read by one skilled in the art with which the claimed invention is most closely connected. *MPEP* § 2111.

2. MPEP Standards for Determining Obviousness

“The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness.”⁵ MPEP § 2142. The MPEP indicates that in order for an examiner to establish a *prima facie* case that an invention, as defined by a claim at issue, is obvious, the examiner must (1) interpret the claim at issue; (2) define one or more prior art reference components relevant to the claim at issue; (3) ascertain the differences between the one or more prior art reference components and the elements of the claim at issue; and (4) adduce objective evidence which establishes, under a preponderance of the evidence standard, a teaching to modify the teachings of the prior art reference components such that the prior art reference components can be used to construct a device substantially equivalent to the claim at issue. This last step generally encompasses two sub-steps: (1) adducement of objective evidence teaching how to modify the prior art components to achieve the individual elements of the claim at issue; and (2) adducement of objective evidence teaching how to combine the modified individual components such that the claim at issue, as a whole, is achieved. MPEP § 2141; MPEP § 2143. Each of these forgoing elements is further defined within the MPEP. *Id.*

This requirement has been explained recently by the Supreme Court in *KSR v. Teleflex*, 550 U.S. ____; 127 S. Ct. 1727 (2007) which noted that such a rejection requires “some articulated reasoning ... to support the legal conclusion of obviousness.” As stated by the Court, obviousness can be established where “there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, **this analysis should be made explicit.**” (*emphasis added*) See *In re Kahn*, 441 F. 3d 977, 988 (CA Fed. 2006) (“[R]jections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.’”). *KSR v. Teleflex*, 550 U.S. ____; 127 S. Ct. 1727 at 1741.

As further described by the Court “[A] patent composed of several elements is **not proved obvious merely by demonstrating that each of its elements was,**

⁵ An invention, as embodied in the claims, is rendered obvious if an examiner concludes that although the claimed invention is not identically disclosed or described in a reference, the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. MPEP § 2141 (citing 35 U.S.C. § 103).

independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known." *KSR v. Teleflex*, 550 U.S. ____; 127 S. Ct. 1727 at 1741.

a) Interpreting a Claim at Issue

With respect to interpreting a claim at issue, the MPEP directs that, during examination -- as opposed to subsequent to issue -- such claim be interpreted as broadly as the claim terms would reasonably allow when read by one skilled in the art with which the claimed invention is most closely connected. In practice, this is achieved by giving each of the terms in the claim the "plain meaning" of the terms as such would be understood by those having ordinary skill in the art, and if portions of the claim have no "plain meaning" within the art, or are ambiguous as used in a claim, then the examiner is to consult the specification for clarification. *MPEP* § 2111.

b) Definition of One or More Prior Art Reference Components Relevant to the Claim at Issue

Once the claim at issue has been properly interpreted, the next step is the definition of one or more prior art reference components (*e.g.*, electrical, mechanical, or other components set forth in a prior art reference) relevant to the properly interpreted claim at issue. With respect to the definition of one or more prior art reference components relevant to the claim at issue, the MPEP defines three proper sources of such prior art reference components, with the further requirement that each such source must have been extant at the time of invention to be considered relevant. These three sources are as follows: patents as defined by 35 U.S.C. § 102, printed publications as defined by

35 U.S.C. § 102, and information (*e.g.*, scientific principles) deemed to be "well known in the art"⁶ as defined under 35 U.S.C. § 102. *MPEP* § 2141; *MPEP* § 2144.

c) Ascertainment of Differences between Prior Art Reference Components and Claim at Issue; Teaching to Modify and/or Combine Prior Art Reference Components to Remedy Those Differences in Order to Achieve Recitations of Claim at Issue

With one or more prior art components so defined and drawn from the proper prior art sources, the differences between the one or more prior art reference components and the elements of the claim at issue are to be ascertained. Thereafter, in order to establish a case of *prima facie* obviousness, an examiner must set forth a rationale, supported by objective evidence⁷ sufficient to demonstrate under a preponderance of the evidence standard, that in the prior art extant at the time of invention there was a teaching to modify and/or combine the one or more prior art reference components to construct a device practicably equivalent to the claim at issue.

The preferable evidence relied upon is an express teaching to modify/combine within the properly defined objectively verifiable sources of prior art. In the absence of such express teaching, an examiner may attempt to establish a rationale to support a finding of such teaching reasoned from, or based upon, express teachings taken from the defined proper sources of such evidence (*i.e.*, properly defined objectively verifiable sources of prior art). *MPEP* § 2144; *In re Dembiczak*, 50 U.S.P.Q.2d 1614 (Fed. Cir. 1999).

⁶ The fact that information deemed to be "well known in the art" can serve as a proper source of prior art reference components seems to open the door to subjectivity, but such is not the case. As a remedy to this potential problem, *MPEP* § 2144.03 states that if an examiner asserts that his position is derived from and/or is supported by a teaching or suggestion that is alleged to have been "well known in the art," and that if an applicant traverses such an assertion (that something was "well known within the art"), the examiner must cite a reference in support of his or her position. The same *MPEP* section also states that when a rejection is based on facts within the personal knowledge of an examiner, the data should be stated as specifically as possible, and the facts must be supported, when called for by the applicant, by an affidavit from the examiner. Such an affidavit is subject to contradiction or explanation by the affidavits of the applicant and other persons. *Id.* Thus, all sources of prior art reference components must be objectively verifiable.

⁷ The proper sources of the objective evidence supporting the rationale are the defined proper sources of prior art reference components, discussed above, with the addition of factually similar legal precedent. *MPEP* § 2144.

The MPEP recognizes the pitfalls associated with the tendency to subconsciously use impermissible "hindsight" when an examiner attempts to establish such a rationale. The MPEP has set forth at least two rules to ensure against the likelihood of such impermissible use of hindsight. The first rule is that:

under 35 U.S.C. 103, the examiner must step backward in time and into the shoes worn by the hypothetical "person of ordinary skill in the art" when the invention was unknown and just before it was made. In view of all factual information,⁸ the examiner must then make a determination whether the claimed invention "as a whole" would have been obvious at that time to that person. Knowledge of an Applicant's disclosure must be put aside in reaching this determination, yet kept in mind in order to determine the "differences," conduct the search, and evaluate the "subject matter as a whole" of the invention. The tendency to resort to "hindsight" based upon an Applicant's disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.

MPEP § 2142 (emphasis added). Thus, if the only objective evidence of such teaching to modify and/or combine prior art reference components is an applicant's disclosure, no evidence of such teaching exists.⁹

The second rule is that if an examiner attempts to rely on some advantage or expected beneficial result that would have been produced by a modification and/or combination of the prior art reference components as evidence to support a rationale to establish such teachings to modify and/or combine prior art reference components, the MPEP requires that such advantage or expected beneficial result be objectively verifiable teachings present in the acceptable sources of prior art (or drawn from a convincing line of reasoning based on objectively verifiable established scientific principles or teachings). *MPEP* § 2144. Thus, as a guide to avoid the use of impermissible hindsight, these rules from the MPEP make clear that absent some objective evidence, sufficient to

⁸ "Factual information" is information actually existing or occurring, as distinguished from mere supposition or opinion. *Black's Law Dictionary* 532 (5th ed. 1979).

⁹ An applicant may argue that an examiner's conclusion of obviousness is based on improper hindsight reasoning. However, "[a]ny judgment on obviousness is in a sense necessarily a reconstruction based on hindsight reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill in the art at the time the claimed invention was made and does not include knowledge gleaned only from applicant's disclosure, such a reconstruction is proper." *MPEP* § 2145(X)(A) (emphasis added).

persuade under a preponderance of the evidence standard, no teaching of such modification and/or combination exists.¹⁰

B. Technical Material Cited by Examiner Mulgund et al. (U.S. Pub. No. 2002/0161751 and Warneke et al. (“Ultra-Low Power Communication Logic Circuits for Distributed Sensor Networks”) Does Not Show/Suggest Recitations of Independent Claim 1 and Dependent Claims 2-11 as Presented Herein; Notice of Allowance of Same Respectfully Requested

1. Independent Claim 1

Independent Claim 1 recites as follows:

“1. A method comprising:

transmitting one or more mote-addressed content indexes, at least one of the one or more mote-addressed content indexes including at least one of a mote-addressed sensing index or a mote-addressed control index.” (Emphasis added)

¹⁰ *In Re Sang Su Lee* 277 F.3d 1338 (Fed. Cir. 2002) (“When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness.”) *See, e.g., McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52, 60 U.S.P.Q.2d 1001, 1008 (Fed. Cir. 2001) (“the central question is whether there is reason to combine [the] references,” a question of fact drawing on the *Graham* factors). “The factual inquiry whether to combine references must be thorough and searching.” *Id.* It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with. *See, e.g., Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25, 56 U.S.P.Q.2d 1456, 1459 (Fed. Cir. 2000) (“a showing of a suggestion, teaching, or motivation to combine the prior art references is an ‘essential component of an obviousness holding’”) (quoting *C.R. Bard, Inc. v. M3 Systems, Inc.*, 157 F.3d 1340, 1352, 48 U.S.P.Q.2d 1225, 1232 (Fed. Cir. 1998)); *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999) (“Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.”); *In re Dance*, 160 F.3d 1339, 1343, 48 U.S.P.Q.2d 1635, 1637 (Fed. Cir. 1998) (there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant); *In re Fine*, 837 F.2d 1071, 1075, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988) (“teachings of references can be combined only if there is some suggestion or incentive to do so.”) (emphasis in original) (quoting *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984)). The need for specificity pervades this authority. *See, e.g., In re Kotzab*, 217 F.3d 1365, 1371, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000) (“particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed”); *In re Rouffet*, 149 F.3d 1350, 1359, 47 U.S.P.Q.2d 1453, 1457-58 (Fed. Cir. 1998) (“even when the level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination. In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious.”)).

As shown following, (1) Examiner has ignored several express recitations of Independent Claim 1 (formerly recited in dependent claim 2) in his analysis, (2) Examiner is interpreting Mulgund and/or Warneke to “teach” at least a portion of the text of Independent Claim 1, but has not provided any objectively verifiable evidence supporting his interpretation, and (3) modifications/combinations of technologies cited by Examiner to meet the recitations of Independent Claim 1 are mere conclusory statements, would change the principle of operation, and/or or render the prior art components unfit for their intended purpose.

Under the MPEP standards as set forth herein, Examiner has not met his burden to establish a prima facie case of the unpatentability of Independent Claim 1 for any or all of the forgoing reasons. Accordingly, Applicant respectfully requests that Examiner withdraw his rejections of Claim 1 and Issue a Notice of Allowability for same.

a) Technical Material Cited by Examiner Does Not Show or Suggest the Text of at Least Independent Claim 1

As set forth above, Independent Claim 1 recites as follows:
“A method comprising:

[a] transmitting at least a part of one or more mote-addressed content indexes, at least one of the one or more mote-addressed content indexes including at least one of a mote-addressed sensing index or a mote-addressed control index.”¹¹

Concerning this, the Examiner has stated as follows:

Regarding claims 1 and 12, Mulgund teaches a method comprising: transmitting at least a part of one or more sensor-addressed content indexes (Node Data Table) (paragraph 42; The Node Data Table is transmitted because the database server can interrogate the node to retrieve it which implies that the table is transmitted by the node in response to the interrogation. The Node Data Table is "sensor-addressed" because an identifier of the node is included (i.e. Node A, B, or C). The Node Data Table is also a "content index" because it contains "contents" such as the type of sensor data known to originate from the node and is in the form of a table which is equivalent to an "index".) The

¹¹ The lettering of the clauses herein is merely for sake of clarity of argument and should not be taken to imply any particular ordering of the clauses.

one or more sensor-addressed content indexes including one of a sensor addressed sensing index (paragraph 42, The contents of the Node Data Table is considered a "sensing index" because it contains information pertaining to the type of sensor data or "sensing" information in the form of a table or "index".) Additionally Mulgund teaches that the sensing nodes comprise computational devices possibly ranging in complexity from small embedded platforms to fully-fledged PCs (paragraph 26), but does not explicitly teach that the addressed content indexes are transmitted by motes. Warneke teaches millimeter scale sensing and communication platforms which compose a distributed sensor network called dust motes (page 1, lines 1-8). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Mulgund to allow the motes taught by Warneke to be used in the sensing network in order to utilize sensors that provide low cost, low power consumption, and small size.

Examiner's Office Action, pp. 3-4. (17 July 2009).

Applicant respectfully disagrees and traverses the rejection.

(1) Examiner Citations With Regard to Clause [a] of Independent Claim 1

Applicant respectfully points out that Applicant has reviewed the portions of Mulgund and Warneke identified by Examiner, and so far as Applicant can discern, Mulgund and Warneke do not recite or suggest the text of clause [a] of Applicant's Independent Claim 1. Rather, portions of Mulgund and Warneke cited by Examiner recite as follows::

[0026] FIG. 2 illustrates the nature of each of the sensing nodes 2, which comprise computational devices (possibly ranging in complexity from small embedded platforms to a fully-fledged PCs) that have one or more sensors 16 providing high-value information connected to it. The term sensor is used here in a general sense. A sensor 16 as contemplated herein could be as simple as an instrument that measures temperature, pressure, or any such other physical quantity. It could also be a device as complex as a video camera providing continuous full-motion imagery of some area of interest. In any case, the output of each of these sensors 16 is stored locally in a well-defined knowledge base 18, but the output can be accessed from outside the network 4 through some software application programming interface (API) and hardware implementation. Each of the sensing nodes 2 is additionally in communication with one or more other sensing nodes through connecting links 3.

[0042] In another embodiment, the database logical design **19** further comprises a Data Table List **30** that provides a mapping between individual nodes **2** and the names of the tables used to store those nodes' Sensor Data. Each of these tables is defined and created dynamically, based on the structure of the information at each node. **FIG. 4** illustrates an embodiment of a network model logical design **19** for a three-node network configuration wherein each of the three nodes (A, B, C) provides a different amount of data. As such a network is traversed and the Nodes Table **20** is populated, an entry is made in the Data Table List Table **30** that identifies the name of the table associated with a given node. In the example illustrated, each node (A, B, C) has its own Node Data Table (**27A-C**). Each of Node Data Table is defined to accommodate the type of sensor data known to originate from that node. As discussed earlier, it is assumed that the software agent on the database server can interrogate the node to determine what type of information it provides, and then define the table structures accordingly.

(Mulgund, par. 26 and 42.)

Smart Dust, a concept recently proposed by Kris Pister [1], are millimeter scale sensing and communication platforms which compose a distributed sensor network. These networks can consist of hundreds to thousands of dust motes and a few interrogating transceivers. Each mote consists of sensors, a power supply, analog and digital circuits, and a communication transceiver.

(Warneke, Page 1, lines 1-8)

As can be seen from the foregoing, the Examiner-identified portions of Mulgund and Warneke do not recite the text of at least Clause [a] of Independent Claim 1. Instead, Mulgund recites “In another embodiment, the database logical design **19** further comprises a Data Table List **30** that provides a mapping between individual nodes **2** and the name of the table used to store those nodes' Sensor Data” and Warneke recites that “These networks can consist of hundreds to thousands of dust motes and a few interrogating transceivers.” It appears to Applicant that the Examiner has mapped “one of a mote-addressed sensing index or a mote-addressed control index” onto the (as alleged) “*a Data Table List 30.*” Applicant notes that Examiner has not explained how he reaches this mapping under the broadest reasonable interpretation framework as is Examiner's burden (e.g., such as by examples drawn from Applicant's claims or detailed

description),¹² and furthermore, clause [a] of claim 1 recites “transmitting at least a part of one or more mote-addressed content indexes, at least one of the one or more mote-addressed content indexes including at least one of a mote-addressed sensing index or a mote-addressed control index.” (Emphasis added) The cited text does not show or recite “transmitting ... one of a mote-addressed sensing index or a mote-addressed control index.”

Applicant has reviewed the Examiner-cited portions of Mulgund and Warneke and is unable to locate a recitation of clause [a] of Claim 1. Applicant further respectfully points out that the Examiner has provided no objectively verifiable evidence, or argument based on objectively verifiable evidence, as to why the text of the reference passages should be interpreted to teach clause [a] of amended Independent Claim 1.

Applicant respectfully notes: “[W]hat a reference teaches is a question of fact.” *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1358 (Fed. Cir. 2001) (referencing *In re Beattie*, 974 F.2d 1309, 1311 (Fed.Cir.1992)). See also *McGinley v. Franklin Sports*, 262 F.3d 1339, 1350 (Fed. Cir. 2001).

Applicant respectfully submits that there is NO PROFFERED EVIDENCE THAT WOULD SUPPORT A FINDING OF FACT that Mulgund describes or teaches the text of Clause [a] of Independent Claim 1. Under the guidelines from the *MPEP* and from the case law established by the Court of Appeals for the Federal Circuit, as set forth above, the cited art of record fails to suggest Independent Claim 1 for at least these reasons. Applicant has shown by direct quotations that Independent Claim 1 and the Examiner-cited Mulgund reference are very different on their faces. See *supra* at p. 17 (quotation of Claim 1); at pp. 19–**Error! Bookmark not defined.** (quotation of Mulgund); and at p. 20 (quotation of Warneke). Insofar that Applicant has shown that “*at first sight; on the first appearance; on the face of it; so far as can be judged from the first*

¹² Irrespective of a desire to be cooperative, the ability of any patent practitioner to help the Examiner fulfill this burden on the record is tightly curtailed by pre- and post-issuance legal standards and by various ethical duties in tension. See, e.g., 37 C.F.R. § 10.83 (“A practitioner should represent a client zealously within the bounds of the law.”); 37 C.F.R. § 10.84 (“[A] practitioner shall not intentionally ... [p]rejudice or damage a client during the course of a professional relationship, except as required under this [ethics] part.”); and 37 C.F.R. § 10.76 (“A practitioner should represent a client competently.”). For these and other reasons, this document notes instances in which the Examiner inadvertently did not follow the prescribed rules rather than seeking to interpret claims and/or to adduce evidence on the Examiner’s behalf.

disclosure” the Examiner-cited art is very different from Claim 1, and Applicant has noted that Examiner has not cited to any objectively verifiable evidence/argument based on same sufficient to remedy such *prima facie* differences, the Examiner-cited technical material does not establish a *prima facie* case of the unpatentability of Claim 1 either under the MPEP or under controlling legal standards. *See supra* at pp. 11–17.

Accordingly, insofar as that Mulgund and Warneke does not recite the text of at least Clause [a] of Applicant’s Independent Claim 1, and insofar as that Examiner has provided no objectively verifiable evidence, or argument based on objectively verifiable evidence, as to how Mulgund and Warneke could be modified/combined to teach at least Clause [a] of Independent Claim 1, Applicant respectfully points out that under the MPEP guidelines as set forth above, the Examiner-cited technical material does not establish a *prima facie* case of the unpatentability of Independent Claim 1 for at least these reasons. Thus, Applicant respectfully asks Examiner to hold Independent Claim 1 allowable and to issue a Notice of Allowability of same.

With respect to Examiner assertions regarding the teachings of Mulgund and Warneke, Applicant demonstrated above that the express recitations of Mulgund and Warneke are not as Examiner alleges, and that Examiner has provided no evidence—let alone the preponderance of the evidence required—to support Examiner assertions as to the factual conclusion as to what Mulgund and Warneke “teaches.” Accordingly, Applicant respectfully points out that in view of the foregoing, Examiner has presented no evidence that Mulgund and Warneke teaches as asserted by Examiner. In addition, Applicant respectfully points out that even if Examiner’s assertions regarding the teachings of Mulgund and Warneke were supported, such would be of no moment in that Examiner has yet to connect the alleged teaching of Mulgund and Warneke to the actual express language of Applicant’s Independent Claim 1. Under the MPEP guidelines as set forth above, the cited art of record fails to establish a *prima facie* case of unpatentability for at least these reasons. Accordingly, for at least the foregoing reasons, Applicant respectfully requests that Examiner hold Independent Claim 1 allowable and issue a Notice of Allowability of same.

(2) Examiner Interpretation Appears to be Based on Inadvertent Impermissible Hindsight, Personal Knowledge, or Official Notice; Applicant Requests Issuance of Notice of Allowability

Given that Applicant has shown, above, what Mulgund and Warneke actually recites, the question thus naturally arises as to how Examiner saw Mulgund and Warneke as “teaching” something related to Clause [a] of Independent Claim 1. Applicant respectfully points out that the Applicant’s Application is the only objectively verifiable Examiner-cited document of record that shows or suggests what Examiner purports the references to teach. From this and the express recitations of Mulgund and Warneke as set forth, it follows that Examiner is interpreting Mulgund and Warneke through the lens of Applicant’s application, which is impermissible hindsight use. Thus, at present, Examiner’s assertions regarding Mulgund and Warneke are untenable. Under the MPEP guidelines as set forth above, the cited art of record fails to establish a *prima facie* case¹³ of unpatentability for at least these reasons. Accordingly, for at least the foregoing reasons, Applicant respectfully requests that Examiner hold Independent Claim 1 allowable and issue a Notice of Allowability of same.

In the alternative and/or in addition to the foregoing, as Examiner has provided no objectively verifiable evidence, nor argument based on objectively verifiable evidence, in support of Examiner assertions regarding what the technical material cited by Examiner “teaches,” Applicant infers that the Examiner is relying on “personal knowledge” and/or is taking “official notice” of one or more factors to reach the factual conclusion of what the cited technical material “teaches.” In view of the foregoing, if Examiner desires to maintain the rejection, in the next communication, Applicant respectfully requests that the Examiner provide an affidavit or declaration setting forth objectively verifiable evidence in support of Examiner’s currently unsupported assertions regarding what the cited technical material “teaches” and/or should be interpreted to “teach.” *See, e.g., MPEP S 2144.03(C), If Applicant Challenges a Factual Assertion as Not Properly*

¹³ Specifically, *prima facie* is defined as “at first sight; on the first appearance; on the face of it; so far as can be judged from the first disclosure.” *Black’s Law Dictionary* p. 1189 (6th ed. 1990).

Officially Noticed or Not Properly Based Upon Common Knowledge, the Examiner Must Support the Finding with Adequate Evidence, and 37 C.F.R. 1.104(d)(2).

(3) Examiner Has Put Forth No Evidence Supporting His Characterization That Warneke “Teaches” Recitations of Independent Claim 1

As noted above, Examiner has stated as follows:

Additionally Mulgund teaches that the sensing nodes comprise computational devices possibly ranging in complexity from small embedded platforms to fully-fledged PCs (paragraph 26), but does not explicitly teach that the addressed content indexes are transmitted by motes. Warneke teaches millimeter scale sensing and communication platforms which compose a distributed sensor network called dust motes (page 1, lines 1-8). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Mulgund to allow the motes taught by Warneke to be used in the sensing network in order to utilize sensors that provide low cost, low power consumption, and small size.

Examiner’s Office Action, p. 3-4 (7 August 2008) (emphasis added).

Although Examiner states “Warneke teaches millimeter scale sensing and communication platforms which compose a distributed sensor network called dust motes.” Applicant has pointed out above that Examiner has not engaged in the broadest reasonable interpretation framework regarding Clause [a], and accordingly has inadvertently ignored at least the **“transmitting ... at least one of a mote-addressed sensing index or a mote-addressed control index”** recitations of Clause [a]. Accordingly, until Examiner has supported his statement under the broadest reasonable interpretation framework, Applicant here returns to the express language of the claim and thus respectfully points out that Applicant has reviewed the Warneke reference identified by Examiner, and so far as Applicant can discern, Warneke does not recite “transmitting from a mote across a mote network one or more mote-addressed content indexes” as recited in Clause [a] of Applicant’s Independent Claim 1. Rather, the textual portions of Warneke cited by Examiner actually recite as follows:

Smart Dust, a concept recently proposed by Kris Pister [1], are millimeter scale sensing and communication platforms which compose a distributed sensor network. These networks can consist of hundreds to thousands of dust motes and a few interrogating transceivers. Each mote consists of sensors, a power supply, analog and digital circuits, and a communication transceiver.

(Warneke page 1, lines 1-8)

As can be seen from the foregoing, the Examiner-identified portions of Warneke do not recite the text of at least Clause [a] of Independent Claim 1: “transmitting at least a part of one or more mote-addressed content indexes, at least one of the one or more mote-addressed content indexes including at least one of a mote-addressed sensing index or a mote-addressed control index.”¹⁴ Instead, Warneke recites “Smart Dust, a concept recently proposed by Kris Pister [1], are millimeter scale sensing and communication platforms which compose a distributed sensor network. These networks can consist of hundreds to thousands of dust motes and a few interrogating transceivers. Each mote consists of sensors, a power supply, analog and digital circuits, and a communication transceiver.”(Warneke page 1, lines 1-8). Consequently, on its face, Warneke does not show the cited text of Independent Claim 1.

Applicant has shown by direct quotations that Independent Claim 1 and the Examiner-cited Warneke reference are very different on their faces. *See supra* at p. 17 (quotation of Claim 1); and at p. 20 (quotation of Warneke). Insofar that Applicant has shown that “*at first sight; on the first appearance; on the face of it; so far as can be judged from the first disclosure*” the Examiner-cited art is very different from Claim 1, and Applicant has noted that Examiner has not cited to any objectively verifiable evidence/argument based on same sufficient to remedy such *prima facie* differences, the Examiner-cited technical material does not establish a *prima facie* case of the unpatentability of Claim 1 either under the MPEP or under controlling legal standards. *See supra* at pp. 11–17.

Accordingly, insofar as that Warneke does not recite the text of Clause [a] of Applicant’s Independent Claim 1, and insofar as that Examiner has provided no

¹⁴ This is a portion of the above-identified Clause [a], which recites, “transmitting from a mote across a mote network one or more mote-addressed content indexes, the mote-addressed content indexes comprising a mote-address routing/spatial index.” *See supra* at p. 19.

objectively verifiable evidence, or argument based on objectively verifiable evidence, as to how Warneke could be modified/combined to teach at least Clause [a] of Independent Claim 1, Applicant respectfully points out that under the MPEP guidelines as set forth above, the Examiner-cited technical material does not establish a *prima facie* case of the unpatentability of Independent Claim 1 for at least these reasons. Thus, Applicant respectfully asks Examiner to hold Independent Claim 1 allowable and to issue a Notice of Allowability of same.

Notwithstanding the fact that significant *prima facie* differences exist between Warneke and Applicant's Claim 1, Applicant points out that Examiner has not provided evidence in support of Examiner's allegations as to what Warneke "teaches." Examiner speaks of the "distributed sensor network" notes of Warneke. Examiner's Office Action, p. 3 (7 August 2008). Applicant has reviewed the Warneke reference and cannot find any recitation of "addressed content indexes" in a "sensing network" note description. If Examiner desires to maintain the rejection, therefore, in the next communication, Applicant respectfully requests that the Examiner provide an affidavit or declaration setting forth objectively verifiable evidence in support of Examiner's currently unsupported assertions regarding what Warneke "teaches" and/or should be interpreted to "teach."

With respect to the Examiner's assertions regarding the teachings of Warneke, Applicant demonstrated above that the express recitations of Warneke are not as Examiner alleges, and that Examiner has provided no evidence—let alone the preponderance of the evidence required—to support Examiner assertions as to the factual conclusion as to what Warneke "teaches." Accordingly, Applicant respectfully points out that in view of the foregoing, Examiner has presented no evidence that Warneke teaches as asserted by Examiner. In addition, Applicant respectfully points out that even if Examiner's assertions regarding the teachings of Warneke were supported, such would be of no moment in that Examiner has yet to connect the alleged teaching of Warneke to the actual express language of Applicant's Independent Claim 1. Under the MPEP guidelines as set forth above, the cited art of record fails to establish a *prima facie* case of unpatentability for at least these reasons. Accordingly, for at least the foregoing reasons,

Applicant respectfully requests that Examiner hold Independent Claim 1 allowable and issue a Notice of Allowability of same.

(4) Examiner Interpretation Appears to be Based on Inadvertent Impermissible Hindsight, Personal Knowledge, or Official Notice; Applicant Requests Issuance of Notice of Allowability

Given that Applicant has shown, above, what Warneke actually recites, the question thus naturally arises as to how Examiner saw Warneke as “teaching” something related to Clause [a] of Independent Claim 1. Applicant respectfully points out that the Applicant’s Application is the only objectively verifiable Examiner-cited document of record that shows or suggests what Examiner purports the references to teach. From this and the express recitations of Warneke as set forth, it follows that Examiner is interpreting Warneke through the lens of Applicant’s application, which is impermissible hindsight use. Thus, at present, Examiner’s assertions regarding Warneke are untenable. Under the MPEP guidelines as set forth above, the cited art of record fails to establish a *prima facie* case of unpatentability for at least these reasons. Accordingly, for at least the foregoing reasons, Applicant respectfully requests that Examiner hold Independent Claim 1 allowable and issue a Notice of Allowability of same.

In the alternative and/or in addition to the foregoing, as Examiner has provided no objectively verifiable evidence, nor argument based on objectively verifiable evidence, in support of Examiner assertions regarding what the technical material cited by Examiner “teaches,” Applicant infers that the Examiner is relying on “personal knowledge” and/or is taking “official notice” of one or more factors to reach the factual conclusion of what the cited technical material “teaches.” In view of the foregoing, if Examiner desires to maintain the rejection, in the next communication, Applicant respectfully requests that the Examiner provide an affidavit or declaration setting forth objectively verifiable evidence in support of Examiner’s currently unsupported assertions regarding what the cited technical material “teaches” and/or should be interpreted to “teach.” *See, e.g., MPEP S 2144.03(C), If Applicant Challenges a Factual Assertion as Not Properly*

Officially Noticed or Not Properly Based Upon Common Knowledge, the Examiner Must Support the Finding with Adequate Evidence, and 37 C.F.R. 1.104(d)(2).

- b) Meet the Recitations of Independent Claim 1 Are a “Mere Conclusory Statement” Without Evidentiary Support/Change the Principle of Operation of Components of Cited References/Render Such Components Unfit for Intended Purpose; No Teaching to Combine/Modify Components as a Matter of Law.**

In addition and/or in the alternative to the foregoing, Applicant additionally points out that, not only has Examiner failed to adduce any objectively verifiable evidence sufficient to support Examiner assertions regarding alleged teaching to modify/combine Mulgund and/or Warneke to meet the recitations of Independent Claim 1, there can be no such teaching as a matter of law. Specifically, shown following is that (1) the Examiner’s assertions regarding a teaching to modify/combine the technologies of Mulgund with the technologies of Warneke appear to be based on conclusory statement(s) without evidentiary support, (2) under the MPEP standards there can be no teaching to modify/combine the technologies of Mulgund with the technologies of Warneke as suggested by Examiner in that the proposed modification/combination changes the principle of operation of one or more of the technologies; and (3) under the MPEP standards there can be no teaching to modify/combine the technologies of Mulgund with the technologies of Warneke as suggested by Examiner in that such combination will render one or more of the technologies unfit for their intended purposes.

- (1) Examiner Assertions Regarding A Teaching to Modify/Combine to Meet the Recitations of Independent Claim 1 Are Based on “Mere Conclusory Statements” Without Evidentiary Support**

As explained above, the Supreme Court has stated that when an examiner attempts to establish unpatentability, the Examiner’s *“analysis should be made explicit”* ... [*and* that] rejections ... *cannot be sustained by mere conclusory statements*; instead, there must be some articulated reasoning with some rational underpinning to support the

legal conclusion of obviousness.’ *KSR v. Teleflex*, 550 U.S. ____; 127 S. Ct. 1727 at 1741 (citations omitted).

Concerning Claim 1, as noted above, Examiner has stated as follows:

Additionally Mulgund teaches that the sensing nodes comprise computational devices possibly ranging in complexity from small embedded platforms to fully-fledged PCs (paragraph 26), but does not explicitly teach that the addressed content indexes are transmitted by motes. Warneke teaches millimeter scale sensing and communication platforms which compose a distributed sensor network called dust motes (page 1, lines 1-8). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Mulgund to allow the motes taught by Warneke to be used in the sensing network in order to utilize sensors that provide low cost, low power consumption, and small size.

Examiner’s Office Action, pp. 3-4 (17 July 2009).

Applicant respectfully asserts that this statement is neither evidence nor argument based upon evidence. Instead, the Examiner has attempted to support the present rejection based on this “mere conclusory statement.” Applicant accordingly requests that this statement’s rational underpinning, if any, be made explicit. As explained below, however, in this context such an underpinning could not be articulated.

(2) Examiner-Suggested Modifications to Meet the Recitations of Independent Claim 1 Change the Principle of Operation of Components Being Modified; No Teaching to Modify/Combine Components as a Matter of Law.

With respect to this point, Applicant respectfully directs Examiner to *MPEP* § 2143.01, Suggestion or Motivation to Modify the References, which states as follows (emphasis added):

THE PROPOSED MODIFICATION CANNOT CHANGE THE PRINCIPLE OF OPERATION OF A REFERENCE

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) (Claims were directed to an oil seal comprising a bore engaging portion with outwardly biased resilient spring fingers inserted in a resilient sealing member. The primary reference relied upon in a rejection based on a combination of references disclosed an oil seal wherein the bore engaging portion was reinforced by a cylindrical sheet metal casing. Patentee taught the device required rigidity for operation, whereas the claimed invention required resiliency. The court reversed the rejection holding the “suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate.” 270 F.2d at 813, 123 USPQ at 352.

As noted above, Examiner has stated as follows:

Additionally Mulgund teaches that the sensing nodes comprise computational devices possibly ranging in complexity from small embedded platforms to fully-fledged PCs (paragraph 26), but does not explicitly teach that the addressed content indexes are transmitted by motes. Warneke teaches millimeter scale sensing and communication platforms which compose a distributed sensor network called dust motes (page 1, lines 1-8). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Mulgund to allow the motes taught by Warneke to be used in the sensing network in order to utilize sensors that provide low cost, low power consumption, and small size.

Examiner’s Office Action, p. 3-4 (17 July 2009).

Applicant respectfully asserts that one reason for Mulgund's lack of disclosure of “transmitting from a mote across a mote network one or more mote-addressed content indexes” may be gleaned from principles of operation indicated in this recitation:

[0042] In another embodiment, the database logical design 19 further comprises a Data Table List 30 that provides a mapping between individual nodes 2 and the names of the tables used to store those nodes' Sensor Data. Each of these tables is defined and created dynamically, based on the structure of the information at each node. FIG. 4 illustrates an embodiment of a network model logical design 19 for a three-node network configuration wherein each of the three nodes (A, B, C) provides a different amount of data. As such a network is traversed and the Nodes Table 20 is populated, an entry is made in the Data Table List Table 30 that identifies the name of the table associated with a given node. In the example illustrated, each node (A, B, C) has its own Node Data Table (27A-C). Each of Node Data Table is defined to accommodate the type of sensor data known to originate from that node. As discussed earlier, it is assumed that the software agent on the database server can interrogate the node to determine what type of information it provides, and then define the table structures accordingly.

(Mulgund, par. 42.)

Applicant respectfully points out that were one to incorporate the “wireless communication system comprising motes used for sensing” as allegedly taught by Warneke into the structure of Mulgund, Mulgund would no longer have a software agent on the database server “define the table structures accordingly.” Thus, the Examiner-suggested modifications/combinations would change the principle of operation of Mulgund for at least this reason.¹⁵

As discussed above, one reason why such modified Mulgund technologies would be rendered unsatisfactory is that, at present, Examiner has not yet provided any teaching of how to incorporate the database structure of Warneke with the Mulgund technologies to provide “[a] transmitting at least a part of one or more mote-addressed content indexes, at least one of the one or more mote-addressed content indexes including at least one of a mote-addressed sensing index or a mote-addressed control index,” as recited in Independent Claim 1. Hence, in addition to the Examiner-suggested modification/

¹⁵ Mulgund recites a Data Table List Table 30 that identifies the name of the table associated with a given node (*see*, par. 0042). The Data Table List Table 30 is part of database logical design 19 (*see*, par. 0042), which in turn is used by Network Modeling Agent 14 to build a describe network 4 (*see*, par. 0033-0035). Network Modeling Agent 14 is described in Fig. 1 and is useful in creating a model of the instantaneous state of the sensing network 4 (*see*, par. 0020). Thus, the Data Table List Table 30 is built by the Network Modeling Agent for the purposes of modeling the sensor network, and is not used (or transmitted) by the sensor network itself.

combination, there would need to be some type of reconstruction and/or redesign – appropriate to the capabilities of the network structure and method of Mulgund – to provide for the mote network of Warneke.

As has been shown above, the technologies of Mulgund modified/combined with the technologies of Warneke as suggested by Examiner would require “substantial reconstruction and redesign of the elements shown in [... Mulgund] as well as a change in the basic principle under which the [... Mulgund] construction was designed to operate” in order to render the Examiner-suggested combination capable of performing even a subset of the intended purposes of the technologies of Mulgund.¹⁶ As has also been shown, even if the Examiner-suggested combination were to be somehow hypothetically modified such that the Examiner suggested modification/combination became somewhat workable, such a hypothetically modified version of the Examiner-suggested combination would itself require “substantial reconstruction and redesign of the [hypothetically modified] elements shown in [... Mulgund] as well as a change in the basic principle under which the [hypothetically modified] [... Mulgund] construction was designed to operate” in order to perform the intended communications. Accordingly, insofar as that the Examiner-suggested modification itself would likely require at least one additional and as-yet-hypothetical modifications as explained above, under the MPEP standards set forth in block quote above, Examiner’s suggested modification/combination “would change the principle of operation” of Mulgund’s technologies.

Insofar as that the Examiner-suggested modification/combination would itself require *substantial* hypothetical reconstruction and/or redesign to render the Examiner-suggested modification/combination capable of performing the intended purposes, under the MPEP guidelines as set forth above, the theory of operation of the technologies of Mulgund will have been changed. Consequently, under the MPEP standards as set forth above there can be no teaching to modify/combine such references to meet the recitations of Independent Claim 1 as a matter of law. Accordingly, in light of the MPEP standards

¹⁶ This statement reflects Applicant’s current understanding. If Examiner can specify how such modifications/combinations can be implemented without substantially undermining any of Mulgund’s intended purposes, however, Applicant respectfully requests that such specification be included with the next Office Action.

for patentability, Applicant respectfully requests that the Examiner hold Independent Claim 1 patentable and issue a Notice of Allowance of Applicant's Independent Claim 1 for at least the foregoing reasons.

**(3) Modifications to Meet the Recitations of
Independent Claim 1 Render
Components Being Modified
Unsatisfactory for their Intended
Purposes; No Teaching to
Modify/Combine Components as a
Matter of Law.**

Furthermore, "if proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." With respect to this point, Applicant respectfully directs Examiner to *MPEP* § 2143.01, Suggestion or Motivation to Modify the References, which states as follows (emphasis added):

**THE PROPOSED MODIFICATION CANNOT RENDER THE PRIOR
ART UNSATISFACTORY FOR ITS INTENDED PURPOSE**

If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984) (Claimed device was a blood filter assembly for use during medical procedures wherein both the inlet and outlet for the blood were located at the bottom end of the filter assembly, and wherein a gas vent was present at the top of the filter assembly. The prior art reference taught a liquid strainer for removing dirt and water from gasoline and other light oils wherein the inlet and outlet were at the top of the device, and wherein a pet-cock (stopcock) was located at the bottom of the device for periodically removing the collected dirt and water. The reference further taught that the separation is assisted by gravity. The Board concluded the claims were *prima facie* obvious, reasoning that it would have been obvious to turn the reference device upside down. The court reversed, finding that if the prior art device was turned upside down it would be inoperable for its intended purpose because the gasoline to be filtered would be trapped at the top, the water and heavier oils sought to be separated would flow out of the outlet instead of the purified gasoline, and the screen would become clogged.).

As noted above, Examiner has stated as follows:

Additionally Mulgund teaches that the sensing nodes comprise computational devices possibly ranging in complexity from small embedded platforms to fully-fledged PCs (paragraph 26), but does not explicitly teach that the addressed content indexes are transmitted by motes. Warneke teaches millimeter scale sensing and communication platforms which compose a distributed sensor network called dust motes (page 1, lines 1-8). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Mulgund to allow the motes taught by Warneke to be used in the sensing network in order to utilize sensors that provide low cost, low power consumption, and small size.

Examiner's Office Action, p. 3-4 (17 July 2009).

Applicant again points out that the Examiner has provided no evidence to modify/combine the cited technical materials to reach the recitations of Independent Claim 1. Even assuming, *arguendo*, that Examiner had produced an as-yet-unknown objective teaching of how to modify/combine the Examiner-suggested modification/combination of the mote sensors of Warneke with the software agent system model of Mulgund to effect “[a] transmitting at least a part of one or more mote-addressed content indexes,” as set forth in Independent Claim 1, **such a database would apparently render the technologies of Mulgund unsatisfactory for one or more of their intended purposes.**

Mulgund recites, “It is of **no concern** how this network topology came into being, how it is organized, **what routing algorithms are used to pass messages from one node to the next**, but rather, how to aggregate the information at each of the nodes into an off-network repository or network model database **12**. The sensing nodes **2** may be mobile, and the interconnections may change over time. Furthermore, new nodes may join the network **4** at any time, and existing nodes may leave the network unexpectedly.” Mulgund, at par. 25 (emphasis added). It is unclear, at best, how these purposes (such as the software agent system model) can be served by the mote sensor network of Warneke in conjunction with recited features of Independent Claim 1.

Thus, for at least this reason, the suggested modifications/ combinations would render the technologies of Mulgund unsatisfactory for their intended purposes. There can thus be no teaching to modify/combine such references to meet the recitations of Independent Claim 1 as a matter of law. Accordingly, and in light of the MPEP standards

for patentability as set forth above, Applicant respectfully requests that Examiner hold Applicant's Independent Claim 1 patentable and issue a Notice of Allowance of Independent Claim 1 for at least the reasons set forth herein.

2. Dependent Claims 2-11: Patentable for at Least Reasons of Dependency from Independent Claim 1.

Claims 2-11¹⁷ depend either directly or indirectly from Independent Claim 1. "A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." See 35 U.S.C. §112 paragraph 4. Consequently, Dependent Claims 2-11 are patentable for at least the reasons why Independent Claim 1 is patentable. Accordingly, Applicant respectfully requests that Examiner hold Dependent Claims 2-11 patentable for at least the foregoing reasons, and issue a Notice of Allowance on same.

3. Dependent Claim 2 is Independently Patentable

Irrespective of the arguments discussed above, Claim 2 is also independently patentable. Dependent claim 2 recites: "The method of claim 1, wherein said transmitting at least a part of one or more mote-addressed content indexes further comprises: transmitting at least a part of at least one of a mote-addressed sensing index or a mote-addressed control index, the at least one of the mote-addressed sensing index or the mote-addressed control index including at least one of a sensing information or a control information other than data collected by a mote."

Applicant respectfully points out that Applicant has reviewed the Mulgund reference identified by Examiner, and so far as Applicant can discern, neither Mulgund nor Warneke recites "[a] transmitting at least a part of one or more mote-addressed

¹⁷ In relation to these dependent claims, Examiner has provided no objectively verifiable evidence, nor argument based on objectively verifiable evidence, in support of Examiner assertions regarding what the Mulgund and Warneke references "disclose." Insofar as none of these literally recite what Examiner asserts that they "disclose," Applicant respectfully asserts that Examiner must have relied on "personal knowledge" or taken improper "official notice" of one or more factors to reach each of these assertions. Applicant accordingly requests an appropriate affidavit or declaration in support of any of these rejections that are to be maintained, including any considerations purported to reflect what is "well known in the art." See, e.g., 37 C.F.R. 1.104(d)(2).

content indexes, the one or more mote-addressed content indexes including at least one of a mote-addressed sensing index or a mote-addressed control index” as recited in Independent Claim 1 (parent claim). Neither does Mulgund nor Warneke recite that such mote-address routing/spatial index may comprise “[c] transmitting at least a part of at least one of a mote-addressed sensing index or a mote-addressed control index, the at least one of the mote-addressed sensing index or the mote-addressed control index including at least one of a sensing information or a control information other than data collected by a mote,” as recited in Dependent Claim 2. Instead, Mulgund recites “As such a network is traversed and the Nodes Table 20 is populated, an entry is made in the Data Table List Table 30 that identifies the name of the table associated with a given node. In the example illustrated, each node (A, B, C) has its own Node Data Table (27A-C). Each of Node Data Table is defined to accommodate the type of sensor data known to originate from that node.” Mulgund, at par. 42 (emphasis added). Consequently, on its face, Mulgund does not show the text of at least Clauses [a] and [c] of dependent Claim 2.

Applicant respectfully notes: “[W]hat a reference teaches is a question of fact.” *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1358 (Fed. Cir. 2001) (referencing *In re Beattie*, 974 F.2d 1309, 1311 (Fed.Cir.1992)). See also *McGinley v. Franklin Sports*, 262 F.3d 1339, 1350 (Fed. Cir. 2001).

Applicant respectfully submits that there is NO PROFFERED EVIDENCE THAT WOULD SUPPORT A FINDING OF FACT that Mulgund describes or teaches the text of Clause [c] of dependent Claim 2. Under the guidelines from the *MPEP* and from the case law established by the Court of Appeals for the Federal Circuit, as set forth above, the cited art of record fails to suggest Independent Claim 2 for at least these reasons.

Applicant has shown that on its face the evidence cited by Examiner does not establish a *prima facie* case of unpatentability with respect to Claim 2 or even to its parent claim. Applicant has shown by direct quotations that Applicant’s Claims 1 and 2 and the Examiner-cited Mulgund and Warneke references are very different on their faces. See *supra* at pp. 37 (quotation of Dependent Claim 2 and its parent claim); at pp. 19–**Error! Bookmark not defined.** (quotation of Mulgund); and at p. 20 (quotation of

Warneke). Insofar that Applicant has shown that “*at first sight; on the first appearance; on the face of it; so far as can be judged from the first disclosure*” the Examiner-cited art is very different from dependent Claim 2 and its parent claim, and Applicant has noted that Examiner has not cited to any objectively verifiable evidence/argument based on same sufficient to remedy such *prima facie* differences, the Examiner-cited technical material does not establish a *prima facie* case of the unpatentability of Dependent Claim 2 and its parent claim either under the MPEP or under controlling legal standards. *See supra* at pp. 11–17.

Accordingly, insofar as that Mulgund and Warneke does not recite the text of at least Clause [a] of Applicant’s dependent Claim 2 and its parent claim, and insofar as that Examiner has provided no objectively verifiable evidence, or argument based on objectively verifiable evidence, as to how Mulgund and Warneke could be modified/combined to teach at least Clause [c] of dependent Claim 2, Applicant respectfully points out that under the MPEP guidelines as set forth above, the Examiner-cited technical material does not establish a *prima facie* case of the unpatentability of Independent Claim 1 for at least these reasons. Thus, Applicant respectfully asks Examiner to hold dependent Claim 2 allowable and to issue a Notice of Allowability of same.

With respect to Examiner assertions regarding the teachings of Mulgund and Warneke, Applicant demonstrated above that the express recitations of Mulgund and Warneke are not as Examiner alleges, and that Examiner has provided no evidence—let alone the preponderance of the evidence required—to support Examiner assertions as to the factual conclusion as to what Mulgund and Warneke “teaches.” Accordingly, Applicant respectfully points out that in view of the foregoing, Examiner has presented no evidence that Mulgund and Warneke teaches as asserted by Examiner. In addition, Applicant respectfully points out that even if Examiner’s assertions regarding the teachings of Mulgund and Warneke were supported, such would be of no moment in that Examiner has yet to connect the alleged teaching of Mulgund and Warneke to the actual express language of Applicant’s dependent Claim 2. Under the MPEP guidelines as set forth above, the cited art of record fails to establish a *prima facie* case of unpatentability for at least these reasons. Accordingly, for at least the foregoing reasons, Applicant

respectfully requests that Examiner hold dependent Claim 2 and its parent claim allowable and issue a Notice of Allowability of same.

4. Dependent Claim 3 is Independently Patentable

Irrespective of the arguments discussed above, Claim 3 is independently patentable.

With respect to Claim 3, Examiner has stated,

Regarding claims 3 and 14, Mulgund teaches transmitting at least a part of one or more sensor-addressed content indexes further comprises: transmitting at least a part of a sensor-addressed routing/spatial index (Data Table List) (paragraph 42; the Data Table List provides a mapping between individual nodes). The implementation of a mote for a sensor is taught by Warneke.

Examiner's Office Action, p. 4. (17 July 2009)

Applicant respectfully points out that Applicant has reviewed the Mulgund reference identified by Examiner, and so far as Applicant can discern, neither Mulgund nor Warneke recites “[a] transmitting at least a part of one or more mote-addressed content indexes, the one or more mote-addressed content indexes including at least one of a mote-addressed sensing index or a mote-addressed control index” as recited in Independent Claim 1 (parent claim). Neither does Mulgund nor Warneke recite that such mote-address routing/spatial index may comprise “[c] transmitting at least a part of a mote-addressed routing/spatial index,” as recited in Dependent Claim 3.¹⁸

Instead, Mulgund recites “As such a network is traversed and the Nodes Table 20 is populated, an entry is made in the Data Table List Table 30 that identifies the name of the table associated with a given node. In the example illustrated, each node (A, B, C) has its own Node Data Table (27A-C). Each of Node Data Table is defined to accommodate the type of sensor data known to originate from that node. As discussed earlier, it is assumed that the software agent on the database server can interrogate the node to determine what type of information it provides, and then define the table structures

¹⁸ See 35 U.S.C. § 112 paragraph 4 (“A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.”). Claim 3 literally recites Clause [c] and is construed to incorporate all of Claim 1, including Clause [a].

accordingly.” Mulgund, at par. 42 (emphasis added). It appears to Applicant that the Examiner has mapped “transmitting at least a part of a mote-addressed routing/spatial index” onto the (as alleged) “software agent on the database server can interrogate the node to determine what type of information it provides.” Applicant notes that Examiner has not explained how he reaches this mapping under the broadest reasonable interpretation framework as is Examiner’s burden (e.g., such as by examples drawn from Applicant’s claims or detailed description),¹⁹ Consequently, on its face, Mulgund does not show the text of at least Clauses [a] and [c] of Dependent Claim 3.

Applicant respectfully notes: “[W]hat a reference teaches is a question of fact.” *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1358 (Fed. Cir. 2001) (referencing *In re Beattie*, 974 F.2d 1309, 1311 (Fed.Cir.1992)). See also *McGinley v. Franklin Sports*, 262 F.3d 1339, 1350 (Fed. Cir. 2001).

Applicant respectfully submits that there is NO PROFFERED EVIDENCE THAT WOULD SUPPORT A FINDING OF FACT that Mulgund describes or teaches the text of Clause [c] of dependent Claim 3. Under the guidelines from the *MPEP* and from the case law established by the Court of Appeals for the Federal Circuit, as set forth above, the cited art of record fails to suggest Independent Claim 3 for at least these reasons.

Applicant has shown that on its face the evidence cited by Examiner does not establish a *prima facie* case of unpatentability with respect to Claim 3 or even to its parent claim. Applicant has shown by direct quotations that Applicant’s Claims 1 and 3 and the Examiner-cited Mulgund and Warneke references are very different on their faces. See *supra* at pp. 17 and 38 (quotation of Dependent Claim 3 and its parent claim); at pp. 19–**Error! Bookmark not defined.** (quotation of Mulgund); and at p. 20 (quotation of Warneke). Insofar that Applicant has shown that “*at first sight; on the first*

¹⁹ Irrespective of a desire to be cooperative, the ability of any patent practitioner to help the Examiner fulfill this burden on the record is tightly curtailed by pre- and post-issuance legal standards and by various ethical duties in tension. See, e.g., 37 C.F.R. § 10.83 (“A practitioner should represent a client zealously within the bounds of the law.”); 37 C.F.R. § 10.84 (“[A] practitioner shall not intentionally ... [p]rejudice or damage a client during the course of a professional relationship, except as required under this [ethics] part.”); and 37 C.F.R. § 10.76 (“A practitioner should represent a client competently.”). For these and other reasons, this document notes instances in which the Examiner inadvertently did not follow the prescribed rules rather than seeking to interpret claims and/or to adduce evidence on the Examiner’s behalf.

appearance; on the face of it; so far as can be judged from the first disclosure” the Examiner-cited art is very different from Dependent Claim 3 and its parent claim, and Applicant has noted that Examiner has not cited to any objectively verifiable evidence/argument based on same sufficient to remedy such *prima facie* differences, the Examiner-cited technical material does not establish a *prima facie* case of the unpatentability of Dependent Claim 3 and its parent claim either under the MPEP or under controlling legal standards. *See supra* at pp. 11–17.

Accordingly, insofar as that Mulgund and Warneke does not recite the text of at least Clause [a] of Applicant’s dependent Claim 3 and its parent claim, and insofar as that Examiner has provided no objectively verifiable evidence, or argument based on objectively verifiable evidence, as to how Mulgund and Warneke could be modified/combined to teach at least Clause [c] of dependent Claim 3, Applicant respectfully points out that under the MPEP guidelines as set forth above, the Examiner-cited technical material does not establish a *prima facie* case of the unpatentability of Independent Claim 1 for at least these reasons. Thus, Applicant respectfully asks Examiner to hold dependent Claim 3 allowable and to issue a Notice of Allowability of same.

With respect to Examiner assertions regarding the teachings of Mulgund and Warneke, Applicant demonstrated above that the express recitations of Mulgund and Warneke are not as Examiner alleges, and that Examiner has provided no evidence—let alone the preponderance of the evidence required—to support Examiner assertions as to the factual conclusion as to what Mulgund and Warneke “teaches.” Accordingly, Applicant respectfully points out that in view of the foregoing, Examiner has presented no evidence that Mulgund and Warneke teaches as asserted by Examiner. In addition, Applicant respectfully points out that even if Examiner’s assertions regarding the teachings of Mulgund and Warneke were supported, such would be of no moment in that Examiner has yet to connect the alleged teaching of Mulgund and Warneke to the actual express language of Applicant’s dependent Claim 3. Under the MPEP guidelines as set forth above, the cited art of record fails to establish a *prima facie* case of unpatentability for at least these reasons. Accordingly, for at least the foregoing reasons, Applicant

respectfully requests that Examiner hold dependent Claim 3 and its parent claim allowable and issue a Notice of Allowability of same.

5. Dependent Claim 4 is Independently Patentable

Irrespective of the arguments discussed above, Claim 4 is also independently patentable. Dependent claim 4 recites: “The method of claim 1, wherein said transmitting at least a part of one or more mote-addressed content indexes further comprises: transmitting at least a part of at least one of a mote-addressed sensing index or a mote-addressed control index, the at least one of the mote-addressed sensing index or the mote-addressed control index including at least one of a sensing information or a control information other than data collected by a mote and including at least one of a format used to query one or more devices contained within a mote, a control function associated with one or more devices contained within a mote, or a feedback format associated with a feedback provided by one or more devices contained within a mote.”

Instead, Mulgund recites “In any case, the output of each of these sensors 16 is stored locally in a well-defined knowledge base 18, but the output can be accessed from outside the network 4 through some software application programming interface (API) and hardware implementation” Mulgund at par. 26 (Emphasis added), and “Each of Node Data Table is defined to accommodate the type of sensor data known to originate from that node. As discussed earlier, it is assumed that the software agent on the database server can interrogate the node to determine what type of information it provides, and then define the table structures accordingly.” Mulgund, at par. 42 (emphasis added). Consequently, on its face, Mulgund does not show the text of at least Clauses [a] and [c] of Dependent Claim 4.

Applicant respectfully points out that Applicant has reviewed the Mulgund reference identified by Examiner, and so far as Applicant can discern, neither Mulgund nor Warneke recites “[a] transmitting at least a part of one or more mote-addressed content indexes, the one or more mote-addressed content indexes including at least one of a mote-addressed sensing index or a mote-addressed control index” as recited in Independent Claim 1 (parent claim).

Neither Mulgund nor Warneke recites that such mote-address routing/spatial index may comprise “[c] transmitting at least a part of at least one of a mote-addressed sensing index or a mote-addressed control index, the at least one of the mote-addressed sensing index or the mote-addressed control index including: at least one of a sensing information or a control information other than data collected by a mote, **and including:** at least one of a format used to query one or more devices contained within a mote, a control function associated with one or more devices contained within a mote, or a feedback format associated with a feedback provided by one or more devices contained within a mote”, as recited in Dependent Claim 4.

Applicant respectfully notes: “[W]hat a reference teaches is a question of fact.” *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1358 (Fed. Cir. 2001) (referencing *In re Beattie*, 974 F.2d 1309, 1311 (Fed.Cir.1992)). See also *McGinley v. Franklin Sports*, 262 F.3d 1339, 1350 (Fed. Cir. 2001).

Applicant respectfully submits that there is NO PROFFERED EVIDENCE THAT WOULD SUPPORT A FINDING OF FACT that Mulgund describes or teaches the text of Clause [c] of dependent Claim 4. Under the guidelines from the *MPEP* and from the case law established by the Court of Appeals for the Federal Circuit, as set forth above, the cited art of record fails to suggest Independent Claim 4 for at least these reasons.

Applicant has shown that on its face the evidence cited by Examiner does not establish a *prima facie* case of unpatentability with respect to Claim 4 or even to its parent claim. Applicant has shown by direct quotations that Applicant’s Claims 1 and 4 and the Examiner-cited Mulgund and Warneke references are very different on their faces. See *supra* at p.43 (quotation of Dependent Claim 4 and its parent claim); at pp. 19–**Error! Bookmark not defined.** (quotation of Mulgund); and at p. 20 (quotation of Warneke). Insofar that Applicant has shown that “*at first sight; on the first appearance; on the face of it; so far as can be judged from the first disclosure*” the Examiner-cited art is very different from Dependent Claim 4 and its parent claim, and Applicant has noted that Examiner has not cited to any objectively verifiable evidence/argument based on same sufficient to remedy such *prima facie* differences, the Examiner-cited technical material does not establish a *prima facie* case of the unpatentability of Dependent Claim

4 and its parent claim either under the MPEP or under controlling legal standards. *See supra* at pp. 11–17.

Accordingly, insofar as that Mulgund and Warneke does not recite the text of at least Clause [c] of Applicant’s dependent Claim 4 and its parent claim, and insofar as that Examiner has provided no objectively verifiable evidence, or argument based on objectively verifiable evidence, as to how Mulgund and Warneke could be modified/combined to teach at least Clause [c] of dependent Claim 4, Applicant respectfully points out that under the MPEP guidelines as set forth above, the Examiner-cited technical material does not establish a *prima facie* case of the unpatentability of Independent Claim 4 for at least these reasons. Thus, Applicant respectfully asks Examiner to hold dependent Claim 4 allowable and to issue a Notice of Allowability of same.

With respect to Examiner assertions regarding the teachings of Mulgund and Warneke, Applicant demonstrated above that the express recitations of Mulgund and Warneke are not as Examiner alleges, and that Examiner has provided no evidence—let alone the preponderance of the evidence required—to support Examiner assertions as to the factual conclusion as to what Mulgund and Warneke “teaches.” Accordingly, Applicant respectfully points out that in view of the foregoing, Examiner has presented no evidence that Mulgund and Warneke teaches as asserted by Examiner. In addition, Applicant respectfully points out that even if Examiner’s assertions regarding the teachings of Mulgund and Warneke were supported, such would be of no moment in that Examiner has yet to connect the alleged teaching of Mulgund and Warneke to the actual express language of Applicant’s dependent Claim 4. Under the MPEP guidelines as set forth above, the cited art of record fails to establish a *prima facie* case of unpatentability for at least these reasons. Accordingly, for at least the foregoing reasons, Applicant respectfully requests that Examiner hold dependent Claim 4 and its parent claim allowable and issue a Notice of Allowability of same.

C. Technical Material Cited by Examiner (Mulgund et al. (U.S. Pub. No. 2002/0161751) in view of Warneke et al. (“Ultra-Low Power Communication Logic Circuits for Distributed Sensor Networks”) Does Not Show/Suggest Recitations of Independent Claim 12 as Presented Herein; Notice of Allowance of Same Respectfully Requested

1. Independent Claim 12

Independent Claim 12 recites as follows:

“12. A system comprising:

means for transmitting at least a part of one or more mote-addressed content indexes, the one or more mote-addressed content indexes including at least one of a mote-addressed sensing index or a mote-addressed control index.”

(Emphasis added)

As shown following, (1) Examiner has ignored several express recitations of Independent Claim 12 in his analysis, (2) Examiner is interpreting Mulgund and/or Warneke to “teach” at least a portion of the text of Independent Claim 12, but has not provided any objectively verifiable evidence supporting his interpretation, and (3) modifications/combinations of technologies cited by Examiner to meet the recitations of Independent Claim 12 are mere conclusory statements, would change the principle of operation, and/or render the prior art components unfit for their intended purpose.

Under the MPEP standards as set forth herein, Examiner has not met his burden to establish a prima facie case of the unpatentability of Independent Claim 12 for any or all of the forgoing reasons. Accordingly, Applicant respectfully requests that Examiner withdraw his rejections of Claim 12 and Issue a Notice of Allowability for same.

a) Technical Material Cited by Examiner Does Not Show or Suggest the Text of at Least Independent Claim 12

As set forth above, Independent Claim 12 recites as follows:

“A system comprising:

[a] means for transmitting at least a part of one or more mote-addressed content indexes, at least one of the one or more mote-addressed

content indexes including at least one of a mote-addressed sensing index or a mote-addressed control index.”²⁰

Concerning this, the Examiner has stated as follows:

Regarding claims 1 and 12, Mulgund teaches a method comprising: transmitting at least a part of one or more sensor-addressed content indexes (Node Data Table) (paragraph 42; The Node Data Table is transmitted because the database server can interrogate the node to retrieve it which implies that the table is transmitted by the node in response to the interrogation. The Node Data Table is "sensor-addressed" because an identifier of the node is included (i.e. Node A, B, or C). The Node Data Table is also a "content index" because it contains "contents" such as the type of sensor data known to originate from the node and is in the form of a table which is equivalent to an "index".) The one or more sensor-addressed content indexes including one of a sensor addressed sensing index (paragraph 42, The contents of the Node Data Table is considered a "sensing index" because it contains information pertaining to the type of sensor data or "sensing" information in the form of a table or "index".) Additionally Mulgund teaches that the sensing nodes comprise computational devices possibly ranging in complexity from small embedded platforms to fully-fledged PCs (paragraph 26), but does not explicitly teach that the addressed content indexes are transmitted by motes. Warneke teaches millimeter scale sensing and communication platforms which compose a distributed sensor network called dust motes (page 1, lines 1-8). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Mulgund to allow the motes taught by Warneke to be used in the sensing network in order to utilize sensors that provide low cost, low power consumption, and small size.

Examiner's Office Action, pp. 3-4. (17 July 2009).

Applicant respectfully disagrees and traverses the rejection.

Accordingly, the Examiner has rejected Independent Claim 12 for the same or similar reasons as Independent Claim 1. Thus the arguments presented above for Independent Claim 1 also similarly apply to Independent Claim 12. For the sake of brevity, the arguments are not repeated here (but are incorporated here by reference). In view of the foregoing, and under the 35 USC Section 103(a) statute as set forth above, Applicant respectfully submits that the Examiner-cited art does not establish a *prima facie* case of unpatentability of Independent Claim 12. Accordingly, for at

²⁰ The lettering of the clauses herein is merely for sake of clarity of argument and should not be taken to imply any particular ordering of the clauses.

least the foregoing reasons, Applicant respectfully asks Examiner to hold Independent Claim 12 allowable and to issue a Notice of Allowance of same.

2. Dependent Claims 13-22: Patentable for at Least Reasons of Dependency from Independent Claim 12.

Claims 13-22²¹ depend either directly or indirectly from Independent Claim 12. "A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." *See* 35 U.S.C. §112 paragraph 4. Consequently, Dependent Claims 13-22 are patentable for at least the reasons why Independent Claim 12 is patentable. Accordingly, Applicant respectfully requests that Examiner hold Dependent Claims 13-22 patentable for at least the foregoing reasons, and issue a Notice of Allowance on same

3. Dependent Claim 13 is Independently Patentable

Irrespective of the arguments discussed above, Claim 13 is also independently patentable. Dependent claim 13 recites: "The system of claim 12, wherein said means for transmitting at least a part of one or more mote-addressed content indexes further comprises: means for transmitting at least a part of at least one of a mote-addressed sensing index or a mote-addressed control index, the at least one of the mote-addressed sensing index or the mote-addressed control index including at least one of a sensing information or a control information other than data collected by a mote."

Applicant respectfully points out that Applicant has reviewed the Mulgund reference identified by Examiner, and so far as Applicant can discern, neither Mulgund nor Warneke recites "[a] means for transmitting at least a part of one or more mote-addressed content indexes, the one or more mote-addressed content indexes including at

²¹ In relation to these dependent claims, Examiner has provided no objectively verifiable evidence, nor argument based on objectively verifiable evidence, in support of Examiner assertions regarding what the Mulgund and Warneke references "disclose." Insofar as none of these literally recite what Examiner asserts that they "disclose," Applicant respectfully asserts that Examiner must have relied on "personal knowledge" or taken improper "official notice" of one or more factors to reach each of these assertions. Applicant accordingly requests an appropriate affidavit or declaration in support of any of these rejections that are to be maintained, including any considerations purported to reflect what is "well known in the art." *See, e.g.*, 37 C.F.R. 1.104(d)(2).

least one of a mote-addressed sensing index or a mote-addressed control index” as recited in Independent Claim 12 (parent claim). Neither does Mulgund nor Warneke recite that such mote-address routing/spatial index may comprise “[c] means for transmitting at least a part of at least one of a mote-addressed sensing index or a mote-addressed control index, the at least one of the mote-addressed sensing index or the mote-addressed control index including at least one of a sensing information or a control information other than data collected by a mote,” as recited in Dependent Claim 13. Instead, Mulgund recites “As such a network is traversed and the Nodes Table 20 is populated, an entry is made in the Data Table List Table 30 that identifies the name of the table associated with a given node. In the example illustrated, each node (A, B, C) has its own Node Data Table (27A-C). Each of Node Data Table is defined to accommodate the type of sensor data known to originate from that node.” Mulgund, at par. 42 (emphasis added). Consequently, on its face, Mulgund does not show the text of at least Clauses [a] and [c] of Dependent Claim 13.

Applicant respectfully notes: “[W]hat a reference teaches is a question of fact.” *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1358 (Fed. Cir. 2001) (referencing *In re Beattie*, 974 F.2d 1309, 1311 (Fed.Cir.1992)). See also *McGinley v. Franklin Sports*, 262 F.3d 1339, 1350 (Fed. Cir. 2001).

Applicant respectfully submits that there is NO PROFFERED EVIDENCE THAT WOULD SUPPORT A FINDING OF FACT that Mulgund describes or teaches the text of Clause [c] of dependent Claim 13. Under the guidelines from the *MPEP* and from the case law established by the Court of Appeals for the Federal Circuit, as set forth above, the cited art of record fails to suggest Independent Claim 13 for at least these reasons.

Applicant has shown that on its face the evidence cited by Examiner does not establish a prima facie case of unpatentability with respect to Claim 13 or even to its parent claim. Applicant has shown by direct quotations that Applicant’s Claims 12 and 13 and the Examiner-cited Mulgund and Warneke references are very different on their faces. See *supra* at pp. 47 (quotation of Dependent Claim 13 and its parent claim); at pp. 19–**Error! Bookmark not defined.** (quotation of Mulgund); and at p. 20 (quotation of Warneke). Insofar that Applicant has shown that “*at first sight; on the first appearance;*

on the face of it; so far as can be judged from the first disclosure” the Examiner-cited art is very different from Dependent Claim 13 and its parent claim, and Applicant has noted that Examiner has not cited to any objectively verifiable evidence/argument based on same sufficient to remedy such *prima facie* differences, the Examiner-cited technical material does not establish a *prima facie* case of the unpatentability of Dependent Claim 13 and its parent claim either under the MPEP or under controlling legal standards. See *supra* at pp. 11–17.

Accordingly, insofar as that Mulgund and Warneke does not recite the text of at least Clause [a] of Applicant’s dependent Claim 13 and its parent claim, and insofar as that Examiner has provided no objectively verifiable evidence, or argument based on objectively verifiable evidence, as to how Mulgund and Warneke could be modified/combined to teach at least Clause [c] of dependent Claim 13, Applicant respectfully points out that under the MPEP guidelines as set forth above, the Examiner-cited technical material does not establish a *prima facie* case of the unpatentability of Independent Claim 13 for at least these reasons. Thus, Applicant respectfully asks Examiner to hold dependent Claim 13 allowable and to issue a Notice of Allowability of same.

With respect to Examiner assertions regarding the teachings of Mulgund and Warneke, Applicant demonstrated above that the express recitations of Mulgund and Warneke are not as Examiner alleges, and that Examiner has provided no evidence—let alone the preponderance of the evidence required—to support Examiner assertions as to the factual conclusion as to what Mulgund and Warneke “teaches.” Accordingly, Applicant respectfully points out that in view of the foregoing, Examiner has presented no evidence that Mulgund and Warneke teaches as asserted by Examiner. In addition, Applicant respectfully points out that even if Examiner’s assertions regarding the teachings of Mulgund and Warneke were supported, such would be of no moment in that Examiner has yet to connect the alleged teaching of Mulgund and Warneke to the actual express language of Applicant’s dependent Claim 13. Under the MPEP guidelines as set forth above, the cited art of record fails to establish a *prima facie* case of unpatentability for at least these reasons. Accordingly, for at least the foregoing reasons, Applicant

respectfully requests that Examiner hold dependent Claim 13 and its parent claim allowable and issue a Notice of Allowability of same.

4. Dependent Claim 14 is Independently Patentable

Dependent Claim 14 recites:

14. The system of claim 12, wherein said means for transmitting at least a part of one or more mote-addressed content indexes further comprises:

[c] means for transmitting at least a part of a mote-addressed routing/spatial index.

With respect to Claim 14, Examiner has stated,

Regarding claims 3 and 14, Mulgund teaches transmitting at least a part of one or more sensor-addressed content indexes further comprises: transmitting at least a part of a sensor-addressed routing/spatial index (Data Table List) (paragraph 42; the Data Table List provides a mapping between individual nodes). The implementation of a mote for a sensor is taught by Warneke.

Examiner's Office Action, p. 4. (17 July 2009)

Accordingly, the Examiner has rejected Claim 14 for the same or similar reasons as Claim 3. Thus the arguments presented above for Claim 3 also similarly apply to Claim 14. For the sake of brevity, the arguments are not repeated here (but are incorporated here by reference).

Accordingly, and insofar as that Examiner has provided no objectively verifiable evidence, or argument based on objectively verifiable evidence, as to how Jansen could be modified/combined to teach at least Clause [a] of claim 12 and clause [c] of Dependent Claim 14, Applicant respectfully points out that under the MPEP guidelines as set forth above, the Examiner-cited technical material does not establish a *prima facie* case of the unpatentability of Dependent Claim 14 for at least these reasons. Thus, Applicant respectfully asks Examiner to hold Claim 14 allowable and to issue a Notice of Allowability of same.

5. Dependent Claim 15 is Independently Patentable

Irrespective of the arguments discussed above, Claim 15 is also independently patentable. Dependent claim 15 recites:

“The system of claim 12, wherein said means for transmitting at least a part of one or more mote-addressed content indexes further comprises:

[c] means for transmitting at least a part of at least one of a mote-addressed sensing index or a mote-addressed control index, the at least one of the mote-addressed sensing index or the mote-addressed control index including at least one of a sensing information or a control information other than data collected by a mote and including at least one of a format used to query one or more devices contained within a mote, a control function associated with one or more devices contained within a mote, or a feedback format associated with a feedback provided by one or more devices contained within a mote.”

Instead, Mulgund recites “In any case, the output of each of these sensors 16 is stored locally in a well-defined knowledge base 18, but the output can be accessed from outside the network 4 through some software application programming interface (API) and hardware implementation” Mulgund at par. 26 (Emphasis added), and “Each of Node Data Table is defined to accommodate the type of sensor data known to originate from that node. As discussed earlier, it is assumed that the software agent on the database server can interrogate the node to determine what type of information it provides, and then define the table structures accordingly.” Mulgund, at par. 42 (emphasis added). Consequently, on its face, Mulgund does not show the text of at least Clauses [a] and [c] of Dependent Claim 15.

Applicant respectfully points out that Applicant has reviewed the Mulgund reference identified by Examiner, and so far as Applicant can discern, neither Mulgund nor Warneke recites “[a] means for transmitting at least a part of one or more mote-addressed content indexes, the one or more mote-addressed content indexes including at least one of a mote-addressed sensing index or a mote-addressed control index” as recited in Independent Claim 12 (parent claim).

Neither Mulgund nor Warneke recites that such mote-address routing/spatial index may comprise “[c] means for **transmitting** at least a part of at least one of a mote-

addressed sensing index or a mote-addressed control index, the at least one of the mote-addressed sensing index or the mote-addressed control index including at least one of a sensing information or a control information other than data collected by a mote and including at least one of a format used to query one or more devices contained within a mote, a control function associated with one or more devices contained within a mote, or a feedback format associated with a feedback provided by one or more devices contained within a mote,” as recited in Dependent Claim 15. (Emphasis added)

Applicant respectfully notes: “[W]hat a reference teaches is a question of fact.” *Amazon.com, Inc. v. Barnes and noble.com, Inc.*, 239 F.3d 1343, 1358 (Fed. Cir. 2001) (referencing *In re Beattie*, 974 F.2d 1309, 1311 (Fed.Cir.1992)). See also *McGinley v. Franklin Sports*, 262 F.3d 1339, 1350 (Fed. Cir. 2001).

Applicant respectfully submits that there is NO PROFFERED EVIDENCE THAT WOULD SUPPORT A FINDING OF FACT that Mulgund describes or teaches the text of Clause [c] of dependent Claim 15. Under the guidelines from the *MPEP* and from the case law established by the Court of Appeals for the Federal Circuit, as set forth above, the cited art of record fails to suggest Independent Claim 15 for at least these reasons.

Applicant has shown that on its face the evidence cited by Examiner does not establish a *prima facie* case of unpatentability with respect to Claim 15 or even to its parent claim. Applicant has shown by direct quotations that Applicant’s Claims 1 and 3 and the Examiner-cited Mulgund and Warneke references are very different on their faces. See *supra* at p.52 (quotation of Dependent Claim 15 and its parent claim); at pp. 19–**Error! Bookmark not defined.** (quotation of Mulgund); and at p. 20 (quotation of Warneke). Insofar that Applicant has shown that “*at first sight; on the first appearance; on the face of it; so far as can be judged from the first disclosure*” the Examiner-cited art is very different from Dependent Claim 15 and its parent claim, and Applicant has noted that Examiner has not cited to any objectively verifiable evidence/argument based on same sufficient to remedy such *prima facie* differences, the Examiner-cited technical material does not establish a *prima facie* case of the unpatentability of Dependent Claim 15 and its parent claim either under the *MPEP* or under controlling legal standards. See *supra* at pp. 11–17.

Accordingly, insofar as that Mulgund and Warneke does not recite the text of at least Clause [c] of Applicant's dependent Claim 15 and its parent claim, and insofar as that Examiner has provided no objectively verifiable evidence, or argument based on objectively verifiable evidence, as to how Mulgund and Warneke could be modified/combined to teach at least Clause [c] of dependent Claim 15, Applicant respectfully points out that under the MPEP guidelines as set forth above, the Examiner-cited technical material does not establish a *prima facie* case of the unpatentability of Independent Claim 15 for at least these reasons. Thus, Applicant respectfully asks Examiner to hold dependent Claim 15 allowable and to issue a Notice of Allowability of same.

With respect to Examiner assertions regarding the teachings of Mulgund and Warneke, Applicant demonstrated above that the express recitations of Mulgund and Warneke are not as Examiner alleges, and that Examiner has provided no evidence—let alone the preponderance of the evidence required—to support Examiner assertions as to the factual conclusion as to what Mulgund and Warneke “teaches.” Accordingly, Applicant respectfully points out that in view of the foregoing, Examiner has presented no evidence that Mulgund and Warneke teaches as asserted by Examiner. In addition, Applicant respectfully points out that even if Examiner's assertions regarding the teachings of Mulgund and Warneke were supported, such would be of no moment in that Examiner has yet to connect the alleged teaching of Mulgund and Warneke to the actual express language of Applicant's dependent Claim 15. Under the MPEP guidelines as set forth above, the cited art of record fails to establish a *prima facie* case of unpatentability for at least these reasons. Accordingly, for at least the foregoing reasons, Applicant respectfully requests that Examiner hold dependent Claim 15 and its parent claim allowable and issue a Notice of Allowability of same.

D. Technical Material Cited by Examiner (Mulgund et al. (U.S. Pub. No. 2002/0161751) in view of Warneke et al. (“Ultra-Low Power Communication Logic Circuits for Distributed Sensor Networks”) Does Not Show/Suggest the Recitations of Independent Claim 23 as Presented Herein; Notice of Allowance of Same Respectfully Requested

1. Independent Claim 23

Independent Claim 23 recites:

23. A system comprising:

a mote; and

means for transmitting at least a part of one or more mote-addressed content indexes, said means for transmitting proximate to a portion of said mote, said one or more mote-addressed content indexes including at least one of a mote-addressed sensing index or a mote-addressed control index.

As shown following, (1) Examiner has ignored several express recitations of Independent Claim 23 in his analysis, (2) Examiner is interpreting Mulgund and/or Warneke to “teach” at least a portion of the text of Independent Claim 23, but has not provided any objectively verifiable evidence supporting his interpretation, and (3) modifications/combinations of technologies cited by Examiner to meet the recitations of Independent Claim 23 are mere conclusory statements, would change the principle of operation, and/or render the prior art components unfit for their intended purpose.

Under the MPEP standards as set forth herein, Examiner has not met his burden to establish a prima facie case of the unpatentability of Independent Claim 23 for any or all of the forgoing reasons. Accordingly, Applicant respectfully requests that Examiner withdraw his rejections of Claim 23 and Issue a Notice of Allowability for same.

Concerning this, the Examiner has stated as follows:

Regarding claim 23, the limitations are rejected as applied to claim 1. Furthermore, Warneke teaches that each mote consists of a communication transceiver (transmitting means) and because the transceiver is within the mote, it is considered to be "proximate" (page 1, lines 6-9).

Examiner’s Office Action, p. 5. (17 July 2009)

Accordingly, the Examiner has rejected Independent Claim 23 for the same or similar reasons as Independent Claim 1. Thus the arguments presented above for Independent Claim 1 also similarly apply to Independent Claim 23. For the sake of brevity, the arguments are not repeated here (but are incorporated here by reference). In view of the foregoing, and under the 35 USC Section 103(a) statute as set forth above, Applicant respectfully submits that the Examiner-cited art does not establish a *prima facie* case of unpatentability of Independent Claim 23. Accordingly, for at least the foregoing reasons, Applicant respectfully asks Examiner to hold Independent Claim 23 allowable and to issue a Notice of Allowance of same.

E. Technical Material Cited by Examiner (Mulgund et al. (U.S. Pub. No. 2002/0161751) in view of Warneke et al. (“Ultra-Low Power Communication Logic Circuits for Distributed Sensor Networks”)) Does Not Show/Suggest the Recitations of Independent Claim 24 as Presented Herein; Notice of Allowance of Same Respectfully Requested

1. Independent Claim 24

Independent Claim 24 recites:

24. A system comprising:
at least one mote-addressed content index having at least one of a sensing index, a control index, or a routing/spatial index of a mote-appropriate device of a mote, the at least one of the sensing index, the control index, or the routing/spatial index including at least one of a sensing information or a control information other than data collected by a mote; and
at least one reporting entity resident on the mote, said at least one reporting entity configured to report at least a part of said at least one mote-addressed content index.

As shown following, (1) Examiner has ignored several express recitations of Independent Claim 24 in his analysis, (2) Examiner is interpreting Mulgund and/or Warneke to “teach” at least a portion of the text of Independent Claim 23, but has not provided any objectively verifiable evidence supporting his interpretation, and (3) modifications/combinations of technologies cited by Examiner to meet the recitations of Independent Claim 24 are mere conclusory statements, would change the principle of operation, and/or render the prior art components unfit for their intended purpose.

Under the MPEP standards as set forth herein, Examiner has not met his burden to establish a *prima facie* case of the unpatentability of Independent Claim 23 for any or all of the forgoing reasons. Accordingly, Applicant respectfully requests that Examiner withdraw his rejections of Claim 24 and Issue a Notice of Allowability for same.

Concerning this, the Examiner has stated as follows:“Regarding claim 24, the limitations are rejected as applied to claims 1-4.” Examiner’s Office Action, p. 5. (17 July 2009)

Accordingly, the Examiner has rejected Independent Claim 24 for the same or similar reasons as Independent Claim 1. Thus the arguments presented above for Independent Claim 1 also similarly apply to Independent Claim 24. For the sake of brevity, the arguments are not repeated here (but are incorporated here by reference). In view of the foregoing, and under the 35 USC Section 103(a) statute as set forth above, Applicant respectfully submits that the Examiner-cited art does not establish a *prima facie* case of unpatentability of Independent Claim 24. Accordingly, for at least the foregoing reasons, Applicant respectfully asks Examiner to hold Independent Claim 24 allowable and to issue a Notice of Allowance of same.

2. Dependent Claims 25-26: Patentable for at Least Reasons of Dependency from Independent Claim 24.

Claims 24-26 depend either directly or indirectly from Independent Claim 24. "A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." *See* 35 U.S.C. §112 paragraph 4. Consequently, Dependent Claims 24-26 are patentable for at least the reasons why Independent Claim 24 is patentable. Accordingly, Applicant respectfully requests that Examiner hold Dependent Claims 24-26 patentable for at least the foregoing reasons, and issue a Notice of Allowance on same.

IV. CONCLUSION

Applicant may have during the course of prosecution cancelled and/or amended one or more claims. Applicant notes that any such cancellations and/or amendments will

have transpired (i) prior to issuance and (ii) in the context of the rules that govern claim interpretation during prosecution before the United States Patent and Trademark Office (USPTO). Applicant notes that the rules that govern claim interpretation during prosecution form a radically different context than the rules that govern claim interpretation subsequent to a patent issuing. Accordingly, Applicant respectfully submits that any cancellations and/or amendments during the course of prosecution should be held to be tangential to and/or unrelated to patentability in the event that such cancellations and/or amendments are viewed in a post-issuance context under post-issuance claim interpretation rules.

Insofar as that the Applicant may have during the course of prosecution cancelled/amended claims sufficient to obtain a Notice of Allowability of all claims pending, Applicant may not have during the course of prosecution explicitly addressed all rejections and/or statements in Examiner's Office Actions. The fact that rejections and/or statements may not be explicitly addressed during the course of prosecution should NOT be taken as an admission of any sort, and Applicant hereby reserves any and all rights to contest such rejections and/or statements at a later time. Specifically, no waiver (legal, factual, or otherwise), implicit or explicit, is hereby intended (e.g., with respect to any facts of which Examiner took Official Notice, and/or for which Examiner has supplied no objective showing, Applicant hereby contests those facts and requests express documentary proof of such facts at such time at which such facts may become relevant). For example, although not expressly set forth during the course of prosecution, Applicant continues to assert all points of (e.g. caused by, resulting from, responsive to, etc.) any previous Office Action, and no waiver (legal, factual, or otherwise), implicit or explicit, is hereby intended. Specifically, insofar as that Applicant does not consider the cancelled/unamended claims to be unpatentable, Applicant hereby gives notice that it may intend to file and/or has filed a continuing application in order prosecute such cancelled/unamended claims.

With respect to any cancelled claims, such cancelled claims were and continue to be a part of the original and/or present patent application(s). Applicant hereby reserves all rights to present any cancelled claim or claims for examination at a later time in this or another application. Applicant hereby gives public notice that any cancelled claims are

still to be considered as present in all related patent application(s) (e.g. the original and/or present patent application) for all appropriate purposes (e.g., written description and/or enablement). Applicant does NOT intend to dedicate the subject matter of any cancelled claims to the public.

Should this case go to appeal, Applicant reserves the right to submit argument, rebuttal evidence, or legal authority in the instance the Board of Patent Appeals and Interferences finds that the Examiner has met his burden in establishing a *prima facie* case of unpatentability of the various appealed claims. Applicant further reserves the right to submit argument, rebuttal evidence, or legal authority if new claim interpretations or definitional citations are raised on appeal. The fact that argument, rebuttal evidence, or legal authority may not have been explicitly discussed during the course of prosecution should NOT be taken as an admission or waiver of any sort, and Applicant hereby reserves any and all rights to discuss (e.g. make explicit, produce, or explain) such rebuttal evidence at a later time.

The Examiner is invited to contact Steven Stewart at (206) 321-9072 or Dale R. Cook at (425) 467-2260 with any issues that may advance prosecution of the application on the merits.

Respectfully submitted,

10/13/2009

Date

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